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which was spent as
senior civil emergency planner
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ASSURING STRATEGIC STABILITY IN AN ERA OF DETENTE

(PART I)

by

Paul H. Nitze*

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Even though the translation of the Vladivostok Accord on strategic arms into a SALT II Treaty has not yet been resolved, I believe it is now timely to take stock of the strategic arms balance toward which the United States and the Soviet Union would be headed under the terms of such a treaty. To that end it is necessary to raise certain basic questions about the maintenance of strategic stability — in terms of minimizing both the possibility of nuclear war and the possibility that nuclear arms may be used by either side as a means of decisive pressure in key areas of the world.

It appears to be the general belief that while such strategic stability may not be assured by the SALT agreements, it is not and will not be substantially endangered — that on the contrary it has been furthered by the SALT negotiations and agreements since 1969 — and that in any event the best hope of stability lies in further pursuit of negotiations with the aim of reducing the level of strategic weapons and delivery systems on both sides. Unfortunately — and to the profound regret of one who has participated both in the SALT negotiations and in a series of earlier U.S. decisions designed to stabilize the nuclear balance — I believe that each of these conclusions is today without adequate foundation.

On the contrary, there is every prospect that under the terms of the SALT agreements the Soviet Union will continue to pursue a nuclear superiority that is not merely quantitative but designed to produce a theoretical war-winning capability. Further, there is a major risk that, if such a condition were achieved, the Soviet Union would adjust its policies and actions in ways that would undermine the present détente situation, with results that

could only resurrect the danger of nuclear confrontation or, alternatively, increase the prospect of Soviet expansion through other means of pressure.

While this highly disturbing prospect does not mean that strategic arms limitation should for a moment be abandoned as a U.S. (and world) goal, the practical fact we now face is that a SALT II treaty based on the Vladivostok Accord would not provide a sound foundation for follow-on negotiations under present trends. If, and only if, the United States now takes action to redress the impending strategic imbalance, can the Soviet Union be persuaded to abandon its quest for superiority and to resume the path of meaningful limitations and reductions through negotiation.

Finally, I believe that such corrective action can be taken: (a) within the framework of the Vladivostok Accord; (b) with costs that would increase the strategic arms budget marginally above present levels (themselves less than half the strategic arms budget we supported from 1956 through 1962, if the dollar values are made comparable); (c) with results that would encourage the diversion of the Soviet effort from its present thrust and in directions compatible with long-range strategic stability. At the close of this article I shall outline the key elements in such a corrective program.

II

Let us start with a brief review of the overall state of Soviet-American relations. The use of the word "détente," in its current sense, began in 1971. U.S. efforts to improve its relations with the Soviet Union go back to 1933. They dominated the War and the immediate postwar period, and the early years of the Eisenhower Administration. They formed an important strand of U.S. foreign policy in both the Kennedy and Johnson Administrations. The word "détente" as currently used implies something different from these efforts; it implies that their goal has now been achieved and that all

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that remains to be done is to make détente "irreversible."

The chain of events leading to the present situation goes back to the Sino-Soviet split and the great buildup of Soviet forces facing China. There were about 15 Soviet divisions facing China in the mid-1960s; between 1968 and 1972 the number grew to at least 45 divisions. This caused the Chinese Communists to be deeply concerned about the danger of an attack by the Soviet Union on China. The Chinese turned to the one power that could help deter such an attack; they opened the ping-pong diplomacy that resulted in the so-called normalization of U.S. relations with China.

Mr. Nixon was, I think, correct in taking the position that he wished good relations with both China and the U.S.S.R. and did not want an alliance with either. Moscow, however, wanted to be sure that the new relationship between China and ourselves did not deepen into something closer to an alliance and thus impede Soviet policy toward China. For this and other reasons the Russians began to go out of their way to be friendly to Mr. Nixon and Mr. Kissinger. They opened up a vista of relaxation of tensions and of a growing collaboration between the United States and the Soviet Union. In 1972 not only were the SALT I agreements — the Anti-Ballistic Missile (ABM) Treaty and the Interim Agreement — entered into, but also there was signed at Moscow a document called Basic Principles of Relations Between the United States and the Soviet Union. Together with a subsequent agreement signed in Washington in 1973, this laid out what appeared to be a good basis for continuing relations between the U.S.S.R. and ourselves. Among other things, these agreements called for collaboration to see to it that crisis situations in other parts of the world did not build up into confrontations which could increase the risk of war between the two countries. It was understood that this collaboration was to have special reference to Southeast Asia and to the Middle East. These bilateral agreements were accompanied by the Paris Agreements with respect to Vietnam, and the Soviet Union was among those guaranteeing that the Paris Agreements would be implemented and abided by.

These understandings, however, produced no positive Soviet actions. With respect to the final North Vietnamese takeover in Southeast Asia, the Soviets actually took actions to help the North Vietnamese violate the agreements. With respect

to the Middle East, it is hard to sustain the argument that is often made that the Soviets exercised restraint in the October 1973 crisis. There appears to have been little that they refrained from doing to encourage and make possible the attack by Egypt and Syria on Israel and the OPEC action on oil prices and the embargo. The Soviets not only trained and equipped the Egyptians and the Syrians for their surprise attack, but also failed to warn us when they knew that an attack was imminent. When the battle turned against the attackers, they threatened to intervene with their forces.

These two experiences in Southeast Asia and in the Middle East are bound to make us skeptical that the Soviet leaders are in fact moving toward any lasting reduction in tensions, or any abandonment of expansionist aims. A further ground for skepticism comes from what Soviet leaders are saying to their own people, and especially what they are saying in authoritative pronouncements aimed at leadership circles. Here readings of the past year are all too clear. To take but one example, there were published in January 1975 companion articles, one by Boris Ponomarev, a deputy member of the Politburo, the other by Aleksandr Sobolev, a leading theoretician, each arguing that the evolution of the correlation of forces — in which they include not only military but economic and social forces — has moved very favorably from the standpoint of the Soviet Union over recent years.¹ Hence, they say, it is now possible to shift the target of communist action from the formerly colonial world to the developed world — particularly Europe. This shift in target is made possible by two things: one of them is "détente" and the other is "nuclear parity" (as they interpret the term, in a way we shall examine shortly).

In the sum total there are strong grounds for concluding that in Soviet eyes "détente" is not that different from what we used to call the "cold war." When we talked about the "cold war" we were in part emphasizing the fact that despite the deep hostility of the U.S.S.R. to the West in general and to the United States in particular, it would be a terrible thing if there were to be a "hot war" with the Soviet Union. When the Soviets use the word "détente" in their internal writings, they make it

1. B. N. Ponomarev, "The Role of Socialism in Modern World Development," *Problemy Mira i Sotsializma* (Problems of Peace and Socialism), January 1975, pp. 4-13; A. I. Sobolev, "Questions of the Strategy and Tactics of the Class Struggle at the Present Stage of the General Crisis of Capitalism," *Rabochiy Klass in Sovremennyy Mir* (The Working Class and the Contemporary World), January 1975, pp. 3-20.

clear that they intend "détente" to mean the same thing as "peaceful coexistence." Peaceful coexistence, they make it clear, implies no change in their basic objectives, while they expect that current tactics will weaken the West and strengthen the socialist states.²

III

However one reads these broader signs of present Soviet behavior, a prime touchstone of the reality of détente — not only now but for the future — must lie in the area of strategic arms. If the Soviets are acting (and negotiating) in a way that gives promise of a stable nuclear balance (with meaningful reduction in due course), then the future of détente is clearly much brighter. If they are not, however, then the disturbing signs must be taken more seriously, and the long-term dangers are great indeed.

Let us begin by discussing the similarities and contrasts between Soviet and American views on certain strategic questions.

"Is the avoidance of war — particularly a nuclear war — between the two countries desirable?" On this question I think both sides are in agreement. However, there is a certain difference of approach. Clausewitz once said that the aggressor never wants war; he would prefer to achieve his objectives without having to fight for them. The Soviets take seriously their doctrine that the eventual worldwide triumph of socialism is inevitable; that they are duty bound to assist this process; and that, as the process progresses, the potential losers may stand at some point and feel impelled to fight back. On the U.S. side some say that there is no alternative to peace and therefore to détente. This attitude misses two points. The first is that capitulation is too high a price for free men. The second is that high-quality deterrence, not unilateral restraint to the point of eroding deterrence, is the surest way of avoiding a nuclear war.

This thus leads to a second pair of questions: "Is nuclear war unthinkable? Would it mean the end of civilization as we know it?" We in the United States tend to think that it is, and this view prevailed (except for a small group of believers in preventive war, who never had strong policy influence) even in the periods when the United

States enjoyed a nuclear monopoly and, at a later time, a clear theoretical war-winning capability.³ When the effort was made in the late 1950s and early 1960s to create a significant civil defense capability, public resistance soon aborted the effort, so that today the United States has only the most minute preparations in this area. Rather, Americans have thought throughout the last 30 years in terms of deterring nuclear war, with the debate centering on how much effort is necessary to maintain deterrence, to keep nuclear war unthinkable.

In the Soviet Union, the view has been quite different. Perhaps initially because of the U.S. monopoly. Soviet leaders from the outset discounted the impact of nuclear weapons to their people. But as the Soviet nuclear capability grew, the Soviet leaders still declined to depict nuclear war as unthinkable or the end of civilization. On the contrary, they directed, and still direct, a massive and meticulously planned civil defense effort, with expenditures that run at approximately a billion dollars a year (compared to U.S. civil defense expenditures of approximately \$80 million a year).⁴ The average Soviet citizen is necessarily drawn into this effort, and the thinking it represents appears to permeate the Soviet leadership. In the Soviet Civil Defense Manual issued in large numbers beginning in 1969 and 1970, the estimate is made that implementation of the prescribed evacuation and civil defense procedures would limit the civilian casualties to five to eight percent of urban population or three to four percent of the total population — even after a direct U.S. attack on Soviet cities. The Soviets may well overestimate the effectiveness of their civil defense program, but what is plain is that they have made, for 20 years or more, an approach to the problem of nuclear war that does assume, to a degree incomprehensible to Americans (or other Westerners), that nuclear war could happen, and that the Soviet Union could survive.

2. See comments by Aleksey Rumiantsev, at a conference sponsored by *Problemy Mira i Sotsializma*, Summer 1975.

3. To see how top officials viewed American nuclear power even in the period of American monopoly, one can now consult the recently declassified text of the NSC 68 policy paper dated in the spring of 1950. Even though Soviet nuclear capacity (after the first Soviet test of August 1949) was assessed as small for some years to come, that paper rejected any idea of reliance on American nuclear power for the defense of key areas. To be sure, in the 1950s under John Foster Dulles, the United States had a declaratory policy of "massive retaliation." But in the actual confrontations of that period, this declaratory policy was not in fact followed; instead, conventional force was used, for example in the Lebanon crisis of 1958 and, less directly, in the Offshore Islands crisis of the same year. After 1961 massive retaliation was abandoned.

4. Eugene Wigner, "The Atom and the Bomb," *Christian Science Monitor*, November 13, 1974, p. 4.

These differences in approach and attitude appear to be basic and deeply rooted. In essence, Americans think in terms of deterring nuclear war almost exclusively. The Soviet leaders think much more of what might happen in such a war. To the extent that humanitarian and moral objections to the use of nuclear weapons exist in the Soviet Union — as of course they do — such objections are subordinated for practical planning purposes to what Soviet leaders believe to be a realistic view.

It may be argued that these differences are more apparent than real, and that with the passage of time and the emergence of near-equality in the respective nuclear capabilities the differences are today less significant. Unfortunately, as the civil defense picture suggests, the trend in comparative nuclear weapons capabilities has if anything accentuated them.

That this is so can be seen in the more concrete realm of nuclear strategic concepts, and the postures that result from them. Often over-refined or expressed in terms hard for the layman to grasp, the range of strategic nuclear concepts available to any nuclear-weapons nation in fact boils down roughly to five:

1. *Minimum Deterrence.* This means a capacity to destroy a few key cities with little if any counterforce capacity to attack a hostile nation's military forces. In essence, it relies on the threat alone to deter. As between the Soviet Union and the United States, in the event deterrence failed, this level of American capacity would concede to the Soviet Union the potential for a military and political victory. The Soviets would risk U.S. retaliation against a portion of their industry and population, if our action policy in the event deterrence failed turned out to be the same as our declaratory policy before deterrence failed. To reduce this risk of retaliation, the Soviets could limit their attack to U.S. forces and continue to hold the U.S. population as hostage. In sum, the effect of this level of deterrence would be provide limited deterrence of a full-scale attack on the U.S. population. It would have less strength in deterring a Soviet attack on U.S. forces or on allies whose security is essential to our own.

2. *Massive Urban/Industrial Retaliation.* As the name implies, this posture is designed to destroy many cities, many millions of people and much productive capacity, and to do so on an assured second-strike basis. This level of deterrence, some-

times called "Assured Destruction," would concede to the Soviet Union the potential for a military victory if deterrence failed, but (it would be anticipated) would make any such victory worthless in political terms. This form of deterrence differs from minimum deterrence largely in the degree of damage to Soviet industry and population it would threaten.

3. *Flexible Response.* In this form of deterrence the United States would have the capability to react to a Soviet counterforce attack without going immediately to a counter-city attack. It would thus increase the credibility of deterrence. The question of military or political victory if deterrence fails would depend upon the net surviving destructive capacity of the two sides after the initial counterforce exchanges. If the net surviving capacity after such a flexible response were grossly to favor the Soviet Union, or if each limited exchange placed the United States in a progressively weaker relative position, we are back to the minimum deterrence or massive urban/industrial retaliation situation, depending on the amount of surviving effective nuclear capability on the U.S. side.

4. *Denial of a Nuclear-War-Winning Capability to the Other Side.* This means a nuclear posture such that, even if the other side attacked first and sought to destroy one's own strategic striking power, the result of such a counterforce exchange would be sufficiently even and inconclusive that the duel would be extremely unattractive to the other side. This level of deterrence, in addition to deterring an attack on U.S. population centers, should also deter a Soviet attack on U.S. forces or those of its allies. In practice, against any major nuclear nation, the posture would also include a capacity for effective massive urban/industrial retaliation if such a strategy were called for.

5. *A Nuclear-War-Winning Capability.* This would be a position so superior that, whatever the initial forms of nuclear exchange, one's own surviving capacity would be enough to destroy the war-making ability of the other nation without comparable return damage. Such a U.S. posture would deter any Soviet attack on the United States and could also limit other serious Soviet military initiatives contrary to U.S. and allied interests. However, Soviet weapons technology and program momentum are such that the United States probably could not obtain this capability.

A review of the choices made by the United States and the Soviet Union among these five con-

cepts goes, I believe, further than any other form of analysis in explaining and clarifying the changes in the strategic balance since 1945. Until roughly 1954, the United States retained nuclear superiority without extraordinary effort. By the late 1950s, the vulnerability of American bomber bases (bombers then being the only effective delivery method) emerged as a serious weakness in the American posture.⁵ This weakness, and the rapid advances in missile technology of the period, led the United States between 1956 and 1962 to place great emphasis on ensuring the survivability of its nuclear striking power; average strategic obligational authority during these years was about \$18 billion a year in 1974 dollars.⁶ As a result the feared intercontinental ballistic missile (ICBM) "gap" of the 1960 presidential campaign never in fact became reality, but on the contrary the United States re-established a clearly superior nuclear capability by 1961-62. This was the situation at the time of the only true nuclear confrontation of the postwar period, the Cuban missile crisis of the fall of 1962.

Up to that point something approaching a war-winning capability seemed to most Americans the best possible form of deterrence, and thus desirable. However, as it became clear that the Soviet Union, too, was developing massive and survivable missile delivery capabilities, this view changed to the belief that even though a nuclear war might be won in a purely military sense, it could not be won in a political sense. That led to the further view that mutual deterrence through mutually assured destruction was the best feasible objective.

I have explained elsewhere at greater length the decisions of the early 1960s, in which I was one of those who participated with Robert McNamara, then Secretary of Defense.⁷ In essence, the United States opted at that point to stress technological improvement rather than expanded force levels. While numerical comparisons were not ignored, the basic aim was an underlying condition of what may be called "crisis stability," a situation where neither side could gain from a first strike, and of "mutual assured destruction," where each side would have a fully adequate second-strike capability to deter the other. In such a condition it was

believed that neither could realistically threaten the other in the area of strategic weapons, and that the result would be much greater stability and higher chances of the peaceful resolution of crises if they did occur. While nuclear weapons would always be a major deterrent, the conventional arms balance at any point of confrontation would remain important (as it had been in the Berlin crisis of 1958-62 and also in the Cuban missile crisis itself). In short, the aim was to downgrade nuclear weapons as an element in U.S.-Soviet competition and to prepare the way for systematic reductions in nuclear arms. If both sides were to adopt such a concept, it should be possible, over time, to move from what might be called a "high deterrent" posture to a "low deterrent" posture, with the deterrent remaining essentially equivalent on both sides but at successively lower levels.

As the United States thus adjusted its posture, the invitation for the Soviet Union likewise to seek a similar posture — and stop there — was patent both from statements of American policy and from the always-visible American actions. Unfortunately, however, the Soviet Union chose to pursue a course that was ambiguous: it could be interpreted as being aimed at overtaking the United States but then stopping at parity; it could, however, be interpreted as being aimed at establishing superiority in numbers of launchers and in throw-weight⁸ and, perhaps ultimately, a nuclear-war-winning capability on the Soviet side.

It is important to consider the reasons that may have entered into this choice. In part, the Soviet leaders may have been motivated by technological factors — that they had already moved to heavy rockets but were behind in other areas, such as solid propellant technology, accuracy and MIRVing (the development of multiple, independently targetable reentry vehicles). In part, there may have been an element of traditional Soviet emphasis on mass and size. But it is hard to avoid the conclusion that an important factor was the reading the Soviet leaders gave to the Cuban missile

5. See Albert Wohlstetter, "The Delicate Balance of Terror," *Foreign Affairs*, January 1959, pp. 211-234.

6. It should be noted that this figure refers to the amounts obligated annually for equipment, materiel, and personnel that can be directly attributed to the program mission, including all support costs that follow directly from the number of combat units. It does not include allocable costs of such related activities as communications, general support, and intelligence.

7. See Paul H. Nitze, "The Vladivostok Accord and SALT II," *The Review of Politics* (University of Notre Dame), April 1975, pp. 147-60, especially pp. 149-50.

8. "Throw-weight" is a measure of the weight of effective payload that can be delivered to an intended distance. In the case of intercontinental ballistic missiles (ICBMs) and submarine-launched ballistic missiles (SLBMs), the throw-weight is a direct measure of such a payload in terms of the potential power of the missiles' boosters. In view of the more variable loads carried by heavy bombers, a formula for equivalence is needed to take account of all factors including explosive power. This point is addressed in footnote 16.

crisis and, to a lesser extent, the Berlin crisis. In the latter case, Khrushchev had briefly sought to exploit the first Soviet rocket firings of 1957 — by a series of threats to Berlin beginning in late 1958 — but then found that the West stood firm and that the United States quickly moved to reestablish its strategic superiority beyond doubt. And in the Cuban missile case, the very introduction of the missiles into Cuba in the fall of 1962 must have reflected a desire to redress the balance by quick and drastic action, while the actual outcome of the crisis seemed to the Soviet leaders to spell out that nuclear superiority in a crunch would be an important factor in determining who prevailed.

Harking back to the Soviet penchant for actually visualizing what would happen in the event of nuclear war, it seems highly likely that the Soviet leaders, in those hectic October days of 1962, did something that U.S. leaders, as I know from my participation, did only in more general terms — that is, ask their military just how a nuclear exchange would come out. They must have been told that the United States would be able to achieve what they construed as victory, that the U.S. nuclear posture was such as to be able to destroy a major portion of Soviet striking power and still itself survive in a greatly superior condition for further strikes if needed. And they must have concluded that such a superior capability provided a unique and vital tool for pressure in a confrontation situation. It was a reading markedly different from the American internal one, which laid much less stress on American nuclear superiority and much more on the fact that the United States controlled the sea lanes to Cuba and could also have expected to prevail in any conflict over Cuba waged with conventional arms.⁹

One cannot prove that this was the Soviet reasoning. But the programs they set under way about 1962 — above all the new family of weapons systems, embodying not only numbers and size but also greatly advanced technology, the development and deployment of which began to be evident beginning in 1971 but which must have been decided upon some years earlier — seem to reflect a fundamental state of mind on the Soviet side that contains no doubt as to the desirability of a war-winning capability, *if feasible*. Believing that evacuation, civil defense and recuperation measures can minimize the amount of damage sustained in

a war, they conclude that they should be prepared if necessary to accept the unavoidable casualties. On the other hand, the loss of a war would be irretrievable. Therefore, the best deterrent is a war-winning capability, if that is attainable.

There have been, and I believe still are, divisions of opinion on the Soviet side as to whether such a capability is feasible. There are those who have argued that the United States is a tough opponent with great technical expertise and that the United States can be expected to do whatever is necessary to deny such a war-winning capability to the Soviet side. Others have taken the view that the developing correlation of forces — social, economic and political as well as military and what they call the deepening crisis of capitalism — may prevent the United States and its allies from taking the necessary countermeasures and that the target of a war-winning capability, therefore, is both desirable and feasible. Again, this is not to say that Soviet leaders would desire to initiate a nuclear war even if they had a war-winning capability. They would, however, consider themselves duty bound by Soviet doctrine to exploit fully that strategic advantage through political or limited military means.

IV

The SALT negotiations got under way in the late 1969. As a participant in those talks from then until mid-1974, I have described elsewhere some of the difficulties that attended the U.S. side.¹⁰ What was most fundamental was that the U.S. delegation sought at every level and through every form of contact to bring home to the Soviet delegation, and the leaders behind it, the desirability of limitations which would assure “crisis stability” and “essential equivalence” — and that the Soviet side stoutly resisted these efforts.

Indeed, the negotiations very early revealed other major stumbling blocks. One, in particular, revolved around the Soviet conception of “strategic parity.” In the SALT negotiations the U.S. delegation consistently argued for the acceptance by both sides of the concept of “essential equivalence.” By that we meant that both sides did not have to be exactly equal in each component of their nuclear capabilities but that overall the nuclear strategic capability of each side should be essentially equal to that of the other and at a level, one could hope, lower than that programmed by

9. See Maxwell D. Taylor, “The Legitimate Claims of National Security,” *Foreign Affairs*, April 1974, p. 582.

10. Paul H. Nitze, “The Strategic Balance Between Hope and Skepticism,” *Foreign Policy*, Winter 1974-75, pp. 136-56.

the United States. The Soviets have never accepted this concept, but have argued instead for the concept of "equal security taking into account geographic and other considerations." In explaining what they meant by "geographic and other considerations," they said that, "The U.S. is surrounded by friendly countries. You have friends all around the oceans. We, the U.S.S.R., are surrounded by enemies. China is an enemy and Europe is a potential enemy. What we are asking for is that our security be equal to yours taking into account these considerations." They never went so far as to say that this really amounts to a requirement for Soviet superiority in capabilities over the United States, the U.K., France and China simultaneously, but watching the way they added things up and how they justified their position, this is what it boiled down to.

Yet the two sides were able to reach agreement in May of 1972 on stringent limitations on the deployment of ABM interceptor missiles, ABM launchers and ABM radars and on an Interim Agreement temporarily freezing new offensive missile-launcher starts.

After the May 1972 signing of the ABM Treaty and the Interim Agreement, it turned out that the two sides had quite different views as to how the negotiating situation had been left. On the U.S. side, we told the Congress that the Interim Agreement was intended to be merely a short-term freeze on new missile-launcher starts, and that this, together with the ABM Treaty, should create favorable conditions for the prompt negotiation of a more complete and balanced long-term agreement on offensive strategic arms to replace the Interim Agreement and be a complement to the ABM Treaty. Both sides had agreed promptly to negotiate a more complete agreement to replace the Interim Agreement. And the Interim Agreement specifically provided that its provisions were not to prejudice the scope or terms of such a replacement agreement. We thought such a replacement agreement should be based, as was the ABM Treaty, on the principles of equality in capabilities, greater stability in the nuclear relationship between the two sides, and a mutual desire to reduce the resources committed to strategic arms.

However, the Soviet Union had a quite different view. Its negotiators held that in accepting the Interim Agreement we had conceded that the Soviet Union was entitled to an advantage for an

indefinite time of some 40 percent in the number of missile launchers and something better than double the average effective size, or throw-weight, of their missiles over ours. In working out a more complete and longer term agreement, in their view, all that was necessary was to add strict and equal limits on bombers and their armaments, provide for the withdrawal of our nuclear forces deployed in support of our allies capable of striking Soviet territory, and halt our B-1 and Trident programs but not the "modernization" of their systems. The difference of position between the two sides was such that it was difficult to see how agreement could be reached.

In the Vladivostok Accord of December 1974 the Soviets did make concessions from their past extremely one-sided negotiating demands. Those concessions were greater than many in the U.S. executive branch expected. However, does the Accord promise to result in achieving the objectives which the United States has for many years thought should be achieved by a long-term agreement on offensive forces? Those objectives were parity, or essential equivalence, between the offensive capabilities on the two sides, the maintenance of high-quality mutual deterrence and a basis for reducing strategic arms expenditures. I believe it does not.

The Vladivostok Accord, in essence, limits the total number of strategic launchers — ICBMs, submarine-launched ballistic missiles (SLBMs) and heavy strategic bombers, to 2,400 on both sides, and the number of MIRVed missile launchers to 1,320 on both sides. It limits the Soviet Union to the number of modern large ballistic launchers (MLBMs) that they now have, while prohibiting the United States from deploying any modern launchers in this category.¹¹ The Accord calls for air-to-surface missiles with a range greater than 600 kilometers, carried by heavy bombers, to be counted against the 2,400 ceiling. The treaty would allow freedom to mix between the various systems subject to these limitations.

As this article goes to press, there still remain some things to be cleared up: Secretary Kissinger has said that there was a misunderstanding

11. There has been no agreed definition of a heavy ballistic missile. However, both sides acknowledge that the SS-9 and the SS-18 are MLBMs and that the U.S. Titan missile, while it is considered heavy, does not fall within the definition of "modern." The U.S. has no launchers for MLBMs and is prohibited from converting any of its silos to such launchers. The Soviets are estimated to have had 308 launchers for MLBMs and are permitted to convert the SS-9 launchers into launchers for the even larger and much more capable SS-18s.

concerning air-to-surface missiles (ASMs), that our understanding was that only *ballistic* air-to-surface missiles of greater than 600-kilometer range are to be included in the 2,400 launcher limit, not cruise missiles.¹² That is being argued between the two sides at the present time. There is also a question about mobile missiles, particularly land-mobile missiles: Should they be banned or should they be permitted and counted against the 1,320 and 2,400 ceilings? And there is the open question of what constitutes a "heavy bomber." The Soviets are building a plane called the "Backfire" whose gross take-off weight is three-quarters that of the B-1 and which is two and a half times as big as our FB-111. It is a very competent plane, more competent than some of the planes they now agree should be defined to be heavy bombers. The Soviets say the Backfire should not be included in the category of heavy bombers because "we don't intend to use it in that role." However, it can in fact carry, even without refueling (and it is equipped to be refueled), a significant payload to intercontinental distances if the aircraft is recovered in a third country. The way the Vladivostok Accord reads, air-to-surface missiles in excess of 600 kilometers in range, if not carried on a heavy bomber, are not

12. There are several relevant points on the 600-km. range and cruise vs. ballistic ASM questions. The inclusion of cruise missiles as well as ballistic missiles in the aggregate would offer a distinct advantage to the U.S.S.R. In the first place, cruise missiles with a range greater than 600 km. would significantly contribute to U.S. bomber penetration in the face of the strong Soviet antiaircraft defenses. Furthermore, the United States needs longer range cruise missiles to reach meaningful targets within the opponent's interior than does the Soviet Union. Secondly, the Soviets now have cruise missiles of large size with large conventional warheads having a range close to 600 km. With smaller nuclear warheads their range could be more than doubled. It is not possible to verify the substitution of nuclear warheads for conventional ones, or to tell armed cruise missiles from unarmed ones. In any case, a single cruise missile cannot be equated with a Soviet ICBM carrying 50 times as much warhead weight.

13. The significance of verifiability is a function not only of the confidence one can have in verifying a particular number but of the strategic significance of the number being verified. Fixed ICBM silos are large and the number deployed is therefore readily verifiable; however, the throw-weight of the missiles which can be launched from such silos can vary by a factor of ten.

The provision in the SALT I Interim Agreement that the interior dimensions of silos not be increased by more than 15 percent was an attempt to get at this problem. However, the volume of a missile which can be launched from a silo of given interior dimensions can still vary by a factor of two or three, and the throw-weight of a missile with a given volume can vary by a factor of two. Even if the probable error in directly verifying a throw-weight limitation were 20 percent, such a limitation would be strategically far more significant than any of the preceding limitations.

In addition to throw-weight, there are other significant strategic factors, such as the survivability of the launcher through mobility or hardening, and the accuracy, reliability, and number of RVs (reentry vehicles) carried by a MIRVed missile. None of these other factors is limited under the Vladivostok Accord and, in any case, they are inherently difficult to verify.

required to be counted at all. So Backfires and FB-111s with long-range missiles would not count in any way against anything. These problems must be resolved in order to have a meaningful agreement.

Then there are the problems of verification. Messrs. Kissinger and Gromyko have been trying to work out a compromise on the verification issue. I personally take the verification issue less seriously than most because the limits are so high that what could be gained by cheating against them would not appear to be strategically significant.¹³ However, we should be careful not to establish a precedent which would cause trouble if more meaningful limitations were agreed upon.

A notable feature of the Vladivostok Accord is that it does not deal with throw-weight. The agreement would not effectively check the deployment of the new Soviet family of large, technically improved and MIRVed offensive missiles. While both sides are permitted equal numbers of MIRVed missiles, the new Soviet SS-19s have three times the throw-weight of the U.S. Minuteman III, and the new SS-18s, seven times. What this comes down to is that under the Accord the Soviets can be expected to have a total of about 15 million pounds of missile throw-weight and bomber throw-weight equivalent. If the Congress goes forward with the B-1 and the Trident system but the United States does not add further strategic programs, the Soviets can be expected to end up with an advantage of at least three-to-one in missile throw-weight and of at least two-to-one in overall throw-weight, including a generous allowance for the throw-weight equivalent of heavy bombers, and two-to-one of three-to-one in MIRVed missile throw-weight. This disparity leaves out of consideration the Backfire, the FB-111, and the highly asymmetrical advantage in air defenses that the Soviet Union enjoys.¹⁴

Thus, the Vladivostok Accord, while a considerable improvement upon the prior negotiating positions presented by the Soviet Union, continues to codify a potentially unstable situation caused by the large disparity in throw-weight, now being exploited by Soviet technological improvements. (Part II will be published in the September-October 1976 Digest.)

14. In mid-1973 the United States had 602 fighter interceptors and 481 surface-to-air missiles, compared to the Soviet Union's 3,000 fighter interceptors and 10,000 surface-to-air missiles. Edward Luttwak, *The U.S.-U.S.S.R. Nuclear Weapons Balance*, The Washington Papers, Beverly Hills; Sage Publications, 1974.

REGIONAL USE OF HELICOPTERS

by

W. C. E. Loftus

The impressive, life-saving role played by helicopters in South American high-rise buildings fires is well known, and the widespread police use of these vehicles by many U.S. cities is also widely known.

Less spectacular is the systematic groundwork which has been quietly achieved by a number of agencies in several countries, all painstakingly introducing the helicopter into the fabric of municipal and urban society. Some examples which illustrate this being: (a) the survey and enumeration of all high-rise buildings in the city of Chicago and their rooftop characteristics (b) ordinances in several U.S. cities which require clear roof areas on all high-rise buildings to allow helicopter rescue in an emergency (c) a police co-ordinated fire/emergency plan for the use of helicopters in the City of London, England* (d) a West German wide-area emergency ambulance service and (e) experimental use of a helicopter in fire and EMO exercises in Ottawa — Carleton Region.

These examples are of particular interest because they show the progression from simple awareness of the situation to the logical implementation of specialized equipment and techniques. They represent large cities, great populations, big budgets and, presumably, greater risks of emergencies arising, whereas even the largest and most important Canadian cities and regions suffer from comparative smallness of population, taxation revenues, departmental budgets and, in some cases, breadth of vision. Regretably, however, emergencies and disasters are not always as selective.

This is not a harsh criticism. The difficulty of selecting a strange-looking, very expensive, unknown helicopter as against well-understood extra fire-fighting equipment, or more patrol cars; better training programmes or more personnel and the like, is very real to the departmental chief or council executive faced with such a decision. Of course, once used, the versatility of the helicopter converts most sceptics to disciples.

Cost is the big problem — both capital expenditure and "running costs" — but the cost impact can be minimized by departmental cost-sharing and, naturally, use-sharing too.

This is not an easy concept for some people to accept, there being several reasons. Firstly, exclusiveness of use is very desirable, secondly, organizations and individuals tend to be jealous of their position, prowess, and priority, and different agencies and departments consider their intrinsic differences result in incompatibility and, therefore, use and cost sharing are unworkable. Such is not the case.

All regions, made up of a number of municipalities and rural areas and according to geography, industry and climate, produce a pattern of problems and potential emergencies. In each region the pattern will determine exactly how the use and cost is to be spread equitably.

The choice of the right helicopter is not always easy since, like most things, each has its own special properties and disadvantages. For the purposes of illustration a particular type of helicopter has been chosen. It has all the desirable features, although it is not the least expensive. Its purchase and operating costs are used to indicate how the use and cost-sharing could be made to work, spread between a number of agencies and organizations which comprise a typical region.

These "units" consist of the police and fire departments of a moderately large city; similar departments of peripheral municipalities and surrounding rural townships; various departments of the regional authority, and the Emergency Measures Organization. In fact, something like Ottawa and a radius of about thirty miles around it. Each "unit" would, therefore, contribute annually its share of the upkeep of a helicopter and in return gets its share of the use. The following table gives an example of how such a scheme could work. Actual figures would, of course, vary according to what the local regional make-up and pattern called for.

The overall control would have to be by one of the "units" but an amicable timetable arrangement

*Article in Emergency Planning Digest, Nov/Dec 1975

Regional Units	600 Hrs. p.a.				1000 Hrs. p.a.				
	Cost x \$1000	%age Cost	Flying Hours	No. Days @ 2/Day	Cost x \$1000	%age Cost	Flying Hours	Days of Flying @ 3/Day @ 2/Day	
'O' Police	50	35.7	214	107	75	40.35	404	135	202
'O' Fire	5	3.6	22	11	7.5	4.00	40	13	20
'G' Police	10	7.1	43	22	12	6.45	64	22	32
'N' Fire	6	4.2	25	13	8.5	4.52	46	15	23
'N' Police	20	14.3	85	43	22	11.82	118	39	59
EMO	20	14.3	85	43	22	11.82	118	39	59
'M' Depts.	15	10.8	65	33	20	10.75	108	36	54
'G' Fire									
'x' Fire & Police	14	10.1	60	30	16	8.60	86	29	43
(7 "Units")			600	302			1000	334	500
	140,000*				186,000*				

*Based on cost and operating figures of one particular type

would provide for each "unit's" routine turn, and emergencies in any "unit's" area would take precedence. It can be seen that small "unit's" can have some routine use as well as the emergency availability for as little as \$2000 per annum.

More "units" participating will reduce each "unit's" contribution, but too many will diminish the use benefit to all but the biggest contributors.

"Sub-contracting" part of the routine time to other departments at times of their need may assist small "units" in maintaining their participation without diluting their benefit.

The philosophy of the participating "units" has to be based on the knowledge that they could not have a helicopter at all if it were not for sharing it with neighbouring agencies. ▲

USE OF SIRENS — UNITED STATES

Recommendation by DCPA and NOAA

The Defense Civil Preparedness Agency and the National Oceanic and Atmospheric Administration urged communities throughout the nation to use sirens for both natural and man-made disasters.

"The DCPA and NOAA fully support a policy for maximum use of sirens for disaster warning purposes," states a joint position paper signed by DCPA Director John E. Davis and NOAA Administrator Robert M. White.

"Authorities and procedures for using sirens for natural disaster warnings should be specifically documented in community preparedness plans," according to the position paper, which also declares that the wailing siren tone should be used only as an attack warning signal, while a steady siren tone would be used to indicate the threat of natural disasters such as tornadoes and flash floods, or other events that may have a serious impact on the community.

The statement proposes that authority to sound warning sirens be given to more than one local government office to insure 24-hour coverage. It also describes conditions under which National Weather Service offices will accept responsibility as one of the offices authorized to sound warning sirens for weather emergencies.

The joint statement emphasizes that sirens should not be the sole means of disaster warning. Community preparedness plans should include utilization of television, radio, and other communication systems. Warnings to specific individuals and such large-scale protective actions as a sevaluation of an area remain the responsibility of local authorities.

The text of the position paper follows:

Background

Warnings of impending natural disasters are issued by NOAA for hazardous meteorological, hydrologic, and oceanographic phenomena. They are made available to responsible government officials and the general public through all available communication systems. Warnings to specific individuals and orders for protective action such as evacuation are the responsibility of local authorities. Recent postdisaster surveys and research studies have identified the delivery of the warning to the citizens as the weakest link in the dissemination system. These same sources have pointed out that sirens are one of the most effective means for alerting the general public. However, sirens should not be relied upon as the sole means of warning. Their effective use depends upon a viable community operated preparedness plan which includes the coordinated use of all available communications systems. Elements of the Emergency Broadcast System, local radio and television stations and privately owned radio systems should all be exploited.

National Authorities and Policies

In January 1975, the Office of Telecommunications Policy, Office of the President, issued a statement on National Policy for the Use of Telecommunications to Warn the General Public. In addition to other issues, that statement established that NOAA and DCPA would develop plans and procedures for incorporating the civil defense siren system into the consolidated warning system. This paper is intended to be the instrument for a joint NOAA and DCPA public announcement supporting more effective and widespread use of sirens for disaster warnings. It has been developed in consultation with the National Association of State Civil Defense Directors and the U.S. Civil Defense Council.

The DCPA and NOAA fully support a policy for maximum use of sirens for disaster warning purposes. Joint policies for action in furtherance of this position have been developed and will be carried out in concert with the June 1973 agreement between DCPA and NOAA for joint participation in the management and operation of a

National Program for Community Preparedness. Authorities for these actions derive from long-standing authorities of the Agencies for warning preparedness assistance programs and the Disaster Relief Act of 1974. These policies include the following:

- All communities exposed to the threat of tornadoes, flash floods, or tsunamis will be urged to use sirens as an integral part of local warning plans and systems.
- Communities will be urged to educate the public as to the meaning of the siren signal used for disaster warning and actions to be taken.
- Development of siren warning systems will be given priority attention in the DCPA/NOAA programs for community preparedness. Planning and technical assistance will be furnished to State and local governments to the maximum extent possible with available resources.

Responsibility for Siren Activation

Siren systems that are purchased by communities with assistance through the use of DCPA matching funds are installed for the primary purpose of providing a National attack warning capability. They are available for use in natural disaster

warning situations at the discretion of local government authorities and their use for this purpose is encouraged. Authorities and procedures for using sirens for natural disaster warnings should be specifically documented in community preparedness plans. The use of sirens should be limited to signalling impending events of a serious nature that may impact the entire community. The DCPA policy is that the wailing siren tone will be used only as the attack warning signal. The steady siren tone may be used to indicate threatened or impending natural disaster or whatever local authority may decide. To insure their greatest effectiveness, the local community preparedness program must be sufficiently active to insure widespread citizen recognition of sirens as a signal for specific actions as determined by the local government. Authority to sound warning sirens should be given to more than one local government office, manned around the clock, to insure backup capability. National Weather Service (NWS) offices which are responsible for issuing warnings also will accept responsibility as one of the offices with the authority to activate siren systems for warning of tornadoes and flash floods when approved by local authorities. When feasible, the NWS office may be one of the sites where controls may be installed for activation of sirens. ▲

A BRIEF HISTORY OF CIVIL DEFENSE

PART I — 1951 TO 1961

by

Walmer E. Strobe*

The Civil Defense Act of 1950 (Public Law 81-920), which is still the legal basis for civil defense, was enacted because of political pressures from the urban States and large cities. Their agitation was brought about by the first Soviet nuclear test in 1949 and the beginning of the Korean War in 1950. President Truman did not see a need at the time as the Soviets had little real capability. With the Korean War, public concern would not be denied. Forced to take action, the President proposed civil defense legislation in September 1950 intended to minimize the impact on resources needed in the war effort. The effect of the law, signed in January 1951, was to strip the Federal government of all direct responsibility. Operational civil defense was made the primary responsibility of the States. The Federal role was to provide guidance, leadership, and matching funds for some kinds of supplies and equipment.

The initial plans of the Federal Civil Defense Administration (FCDA) called for a survey of blast protection already existing in cities and the modification of these basements and underground areas to improve the protection. All this was to cost about \$3 billion, to be shared on a matching funds basis with the States. While the States were ready, the Administration apparently was not. Each year for the first three years, one notes the curious circumstance of Presidential budget requests of about one-half billion dollars followed by negligible appropriations in the Congress. In retrospect, it seems that proponents were placated by large budget requests, with corrective action arranged in the appropriations process. Congressional committees were perhaps conditioned at this early time as the civil defense program has been unique in the extent to which its budget requests have been cut over the years.

As the Soviet Union gradually acquired a nuclear capability, the United States settled on a national

security policy of deterrence through "massive retaliation." Professor Samuel P. Huntington, in his 1961 book, *The Common Defense*, makes the observation:

"For most of the years from 1945 to 1960 civil defense and arms limitation were the country cousins of American strategy. The 'outsider' quality of civil defense and arms limitation stemmed precisely from the fact that initially neither seemed directly related to or required by a strategy of deterrence. They were both alternative programs beyond the scope of the foreign policy-strategic consensus."

Federal policy following the Korean War continued to de-emphasize civil defense operational readiness. The continued dedication of State and local governments during this period remains a remarkable fact. By about 1956, however, the advent of high-yield thermonuclear weapons and continued lack of Federal concern had begun to erode deeply this grassroots capability.

In 1956, the so-called Holifield Committee began the first of several indepth analyses of U.S. civil defense. Representative Chet Holifield, now retired, soon became one of the most knowledgeable legislators on the subject. His first report called for a suspension of evacuation planning and the initiation of a federally-funded program of building blast and fallout shelters on the basis of risk. In December 1956, FCDA proposed to President Eisenhower a program of shelter construction estimated to cost \$50 billion over a period of years. Blast and fire protection would be provided in the cities; fallout shelter would be constructed elsewhere. After several discussions in the National Security Council, a panel of experts was assembled to study all aspects of continental defense. The deliberations of the Gaither Panel culminated in a report in November 1957 that was withheld from the public until quite recently. Many recommendations of the panel, such as the Ballistic Missile Early Warning System (BMEWS) and the MINUTEMAN missile system were adopted. But with respect to the panel recommendation of a major shel-

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ter-building program, the President chose to heed John Foster Dulles, who said:

"For our security we have been relying above all on our capacity for retaliation. From this policy, we should not deviate now. To do so would imply we are turning to a 'fortress America' concept."

In the late 1950s, when President Eisenhower took the advice of Secretary Dulles, the leading strategic thinkers in the country were beginning to argue a deterrence role for civil defense. Confidence in massive retaliation was fading rapidly. In 1959, Professor Bernard Brodie, dean of American strategists, concluded:

"The enemy knows that if he hits our cities we will hit back, if we can. The question is one of feasibility, not intention. However, the moment we think of deterrence to safeguard territories beyond our shores, the issue of whether we have provided reasonable protection to our population may become critical. We may be quite sure we will hit back if hit directly ourselves, regardless of the state of our civil defenses, but will we do so if the United Kingdom is hit?" Dr. Henry Kissinger, writing in 1960, also worried about the credibility of U.S. commitments to its allies:

"The mere fact that the West constantly feels constrained to emphasize that a nuclear war is unthinkable may raise serious questions about its resolve. Similarly, none of the western countries, though relying on the threat of nuclear retaliation to deter aggression, have taken even the most elementary steps to protect their populations against nuclear attacks — an omission hardly calculated to enhance the credibility of their deterrent threat."

Perhaps the most original strategic thinker of the time, Herman Kahn, put it into a crisis context:

"There is an enormous difference in bargaining ability of a country which can, for example, put its people in a place of safety in 24 hours notice and one which cannot. If it is hard for the reader to visualize this, let him imagine a situation where the Russians had done exactly this and we had not. Then let him ask himself how he thinks he would come out of a subsequent bargaining table." (May 1959)

Despite this growing consensus that civil defense was an element in the strategy of deterrence, when President Kennedy decided to do something about it, he presented the need for civil defense in its old form as an alternative to deterrence — as insurance, should deterrence fail.

Parallel with the search for a deterrence strategy more credible than massive retaliation, the late 1950s saw changes in the pattern of civil defense organization. The Civil Defense Act was amended to give joint responsibility to Federal Government and the States. Ostensibly, the amendment increased the Federal role in civil defense but the legislative history suggests it was intended equally to encourage more effective State and local participation, which has failed off badly. Matching funds were provided for the salaries and expenses of State and local CD staffs. At about the same time, FCDA was merged with the Office of Defense Mobilization, an agency whose mission in the nuclear age began increasing to overlap that of civil defense, causing confusion among other Federal agencies and at State and local levels. It was also an economy move, resulting in an all-time low in support provided to State and local governments and for civil preparedness generally. ▲

To be concluded in the next issue.